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|-------------------------------|------------------------|---------------------|--|
| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/626,946 | DIETRICH ET AL. | |
| | Examiner | Art Unit | |
| | Yogesh C. Garg | 3625 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/29/2005.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 10/14/2005.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |


 Yogesh C. Garg
 Primary Examiner

Detailed Action

1. The Applicant's second petition under 37 C.F.R. 1.181 to reinstate appeal received on July 29, 2005 is acknowledged and entered. Currently claims 1-20 are pending for examination.

Response to Arguments

2.1. Applicant's arguments, see Applicant's second petition under 37 C.F.R. 1.181 to reinstate appeal received on July 29, 2005, pages 3-7, with respect to rejection of claims 1-8 and 11-16 under 35 U.S.C. 101 have been fully considered and are persuasive. The rejection of claims 1-8 and 11-16 under 35 U.S.C. 101 has been withdrawn.

2.2. Applicant's arguments, see Applicant's second petition under 37 C.F.R. 1.181 to reinstate appeal received on July 29, 2005, pages 7-10, with respect to rejection of claims 1-3, 5, 9-10 under 35 U.S.C. 102 (b) have been fully considered and are persuasive. The rejection of claims 1-3, 5, 9-10 under 35 U.S.C. 102 (b) has been withdrawn.

2.3. Applicant's arguments, see Applicant's second petition under 37 C.F.R. 1.181 to reinstate appeal received on July 29, 2005, pages 10-12, with respect to rejection of claims 4,6,8, and 11-20 under 35 U.S.C. 103 (a) have been fully considered and are persuasive. The rejection of claims 4,6,8, and 11-20 under 35 U.S.C. 103 (a) has been withdrawn.

Drawings

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings submitted on 07/27/2000 do not conform to the required Margins per 37 CFR 1.84 (g). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Examiner's Amendment

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Mr. Frederick E. Cooperrider on 10/17/2005. Claims 6 and 8 are amended as follows:

Amended claim 6: A method for selecting a set of bids in a combinatorial auction for at least two items involving at least one player and at least one type of bid for each player

such that:

(a) each item is contained in at most one (or exactly one) selected bid;
(b) for each player, the selected bids all belong to the same type;
and among a11 collections of bids satisfying (a) and (b) the selected bids
maximizing total
revenue, said method comprising:
generating all valid proposals, said proposals comprising a collection of bids that
can be awarded to a player participating in the auction, said bids being actual bids
made and
being considered simultaneously;
formulating an integer program that includes a column for each proposal, a
constraint
for each item and a constraint for each player, said constraints representing
conditions (a) and
(b) respectively, and an objective function which represents revenue;
solving the integer program for selecting [[the]] a set of proposals that maximizes
revenue; and
constructing a set of winning bids from [[the]] a set of winning proposals.

Amended claim 8. A method for selecting a set of bids in a combinatorial auction
for at least two items involving at least one player and at least one type of bid for each
player such that

(a) each item is contained in at most one (or exactly one) selected bid;

(b) for each player, the selected bids all belong to the same type;
and among all collection of bids satisfying (a) and (b) the selected bids
maximized total
revenue, said method comprising:
generating a set of valid proposals, each said proposal comprising a collection of
bids
that can be awarded to a player participating in the auction, said bids being
actual bids made
and being considered simultaneously;
formulating an integer program that includes a column for each proposal, a
constraint
for each item and a constraint for each player, said constraint representing
conditions (a) and
(b) respectively, and an objective function which represents revenue;
solving a linear programming relaxation of the integer program in said formulating
an integer program for obtaining dual variables associated with each of the constraints;
using dual variables obtained in said solving a linear programming relaxation for
determining the excess value associated with each bid, and a threshold for each player;
using a proposal generation method for selecting each player and type, a
proposal for which the excess value exceeds the threshold, or determining that no such
proposal exists;
adding the proposal generated in said using a proposal generation method and

repeating said solving a linear programming relaxation, said using dual variables, and
said using a proposal generation method until no new proposals are identified;
solving the integer program that includes all identified proposals; and
constructing a set of winning bids from [[the]] a set of winning proposals.

Allowable Subject Matter

5 Claims 1-20 are allowed. Claims 1, 6, 8, 9 and 10 are independent. Claims 2-5, 7, and 11-20 are dependencies of claims 1, 6, 8, 9 and 10.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

5.1. Independent Claims 1, 9 and 10 and their dependencies 2-5, 11-12, & 17-20

The prior art, when considered as a whole, fails to teach or fairly suggest in the field of implementing computerized auctions a method, a program storage device readable by a machine, embodying a program of instructions executable by the machine to perform method steps and a computer means for allowing a plurality of players to bid for a plurality of items and generating proposals by utilizing each player's bid data such that each said proposal comprising a collection of bids that can be awarded to player participating in the auction, said bids being actual bids and being considered simultaneously and selecting a set of proposals such that each item is

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included in at most one selected proposal and informing the players bidding on the items of the result of said selecting a set of proposals (see original numbered independent claims 1, 9 and 10) and as defined by the specification and the Applicant's second petition under 37 C.F.R. 1.181 to reinstate appeal received on July 29, 2005, see pages 7-12.

5.2. Independent Claims 6 and 8 and their dependencies 7, 13-16.

The prior art, when considered as a whole, fails to teach or fairly suggest a method for selecting a set of bids in a combinatorial auction for at least two items involving at least one player and at least one type of bid for each player such that: (a) each item is contained in at most one (or exactly one) selected bid; (b) for each player, the selected bids all belong to the same type; and among all collections of bids satisfying (a) and (b) the selected bids maximizing total revenue, generating all valid proposals, said proposals comprising a collection of bids that can be awarded to a player participating in the auction, said bids being actual bids made and being considered simultaneously; formulating an integer program that includes a column for each proposal, a constraint for each item and a constraint for each player, said constraints representing conditions (a) and (b) respectively, and an objective function which represents revenue; solving the integer program and constructing a set of winning bids from a set of winning proposals (see original numbered independent claims 6 and

8) and as defined by the specification and the Applicant's second petition under 37 C.F.R. 1.181 to reinstate appeal received on July 29, 2005, see pages 7-12.

6. Discussion of most relevant prior art:

(i) Rothkopf et al. (DIMACS Technical Report 95-09; April 1995; "Computationally Manageable Combinatorial Auctions"); referred to DIMACS, refers to designing simultaneous auctions/combinatorial auctions allowing a plurality of bidders to submit bids for combination of assets and the problem faced in determining the revenue maximizing the set of winning bids, see at least pages, 2-4. However, Rothkopf et al. fails to anticipate or render obvious the application's above-mentioned underlined unique features as a whole, see Applicant's remarks, at least on pages 8-9 in the Applicant's second petition under 37 C.F.R. 1.181 to reinstate appeal received on July 29, 2005: "*Appellants respectfully disagree and submit that the rejection recently of record fails to meet the initial burden of a prima-facie rejection for anticipation. Indeed, Appellants submit that the description to which the Examiner points clearly teaches against the method of the claimed invention. That is, Appellants submit that, to one of ordinary skill in the art, the last 111 paragraph on page 3 of Rothkopf describes a scenario to clarify the "AUSM" computerized combinatorial auction procedure mentioned in the previous paragraph. As already stated in that previous paragraph, the bidding upon which the Examiner relies is actually a step that "... Falls upon the bidders." Thus, these bids in the final 111 paragraph represent the bids of the next round of bidding in this scenario in which losing bidders submit a new bid based on their preferred combinations. In contrast, the present invention eliminates this "next round" of bidding by generating proposals for such combinations from the original set of bids. Therefore, contrary to the Examiner's characterization, Rothkopf not only fails to teach this key concept of the present invention,*

but, more realistically, actually teaches against this concept.Hence, turning to the clear language of the claims, in Rothkopf there is no teaching or suggestion of: "... generating proposals by utilizing the input data. each said proposal comprising a collection of bids that can be awarded to a player participating in the auction, said bids being actual bids made and being considered simultaneously....", as required by independent claim 1. The remaining independent claims have similar language. Therefore, Appellants submit that claims 1-3, 5, 9, and 10 are clearly patentable over Rothkopf, since the AUSM computerized combinatorial auction procedure clearly fails to generate proposals from the original set of bids. "

(ii) US Patent 6,272,473 to Sandholm discloses a computer-implemented method for optimally selecting sets of items by iteratively searching the stored sets of data related to associated values of the sets of items and selecting a candidate allocation comprising disjoint sets having an optimal combination of associated valuations (see at least col.3, lines 9-10 and col.15, lines 36-52). Sandholm et al. fails to anticipate or render obvious the application's above-mentioned unique features.

(iii) US Patent 6,718,312 to McAfee et al. discloses a new class of dynamic combinatorial auctions producing efficient outcomes than prior combinatorial auctions through the use of "bid composition restrictions wherein a bid's composition must satisfy one or more restrictions that depend explicitly or implicitly on the bidder's past history of bidding (see at least Abstract and col. 9, line 65-col.10, line 15). McAfee et al. fails to anticipate or render obvious the application's above-mentioned unique features.

(iv) US Publication 2002/0016760 A1 to Pathak discloses a method for trading multiple dissimilar products wherein the seller enters the items to be sold in an auction format and then buyers access the server data processing machine to enter bids for the items and once the server receives the bids it communicates the data to an optimization program which gathers all relevant data to process and find the winning bids (see at least Abstract and paragraphs 0032-0033). Pathak fails to anticipate or render obvious the application's above-mentioned unique features.

Conclusion

7 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(i) WO 99/63461 to Dinwoodie discloses an interactive remote auction method and system allowing a plurality of participants to participate remotely from their data input devices. The system displays bid information visually and also generates audible bid information supporting the visual bid information (see at least Abstract).

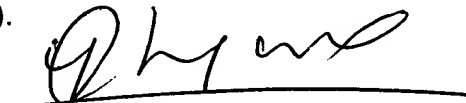
8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh C. Garg whose telephone number is 571-272-6756. The examiner can normally be reached on M-F(8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wynn Coggins can be reached on 571-272-7159. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Yogesh C Garg
Primary Examiner
Art Unit 3625

YCG